

of the brain, and supposes, instead, that there is only an imperfect perception, which, while allowing the animal to progress without running against obstacles, does not enable him to ascertain their nature. He rejects any theory of psychic disturbance causing the phenomena.

The disorders of motility are the most striking results of injury to one hemisphere of the brain. The first consequence is a motor paralysis of the opposite side, which, however, soon disappears as far as locomotive motility is concerned; but the animal is still unable to perform certain acts as well as previously. Thus the animal is unable to give the foot of the side opposite the lesion at command, though it formerly did so. Other peculiarities, such as a tendency to stand on three feet, were also noticed at a late stage, while in progression all four were used.

Dr. Goltz divides the symptoms which follow injuries to the brain into two classes, the temporary, or phenomena of inhibition, and the permanent or abatement symptoms (*Ausfallserscheinungen*). The first of these, the paralysis, etc., are, he claims, due to an inhibitory influence exercised from the injured cortex to the motor centres. These, after a time, recover their irritability and functions. The condition is similar to that observed after section of the cord in a dog, which is followed by paralysis of the sphincters, bladder, etc. It does not follow that the centres for these organs are cut off, for that has been proven not to be the fact, but they suffer an inhibition caused by the injury. The second series of symptoms, lasting in their character, are, he holds, due to the injury to the nerve substance; such are the inability to correctly distinguish pressure, form, or to perform certain movements.

After the injury had been recovered from for a long time, and the animal was then killed, the injured side of the brain is found to present a marked difference, as compared with the other. The convolutions are fewer and less sinuous, and the hemisphere appears like that of an animal lower in the grade of nervous organization. The cause of this is, evidently, that the half of the brain thus relieved from pressure of its surroundings increases in volume and fills up the cavities, without fully restoring the organization.

THE MOVEMENTS OF THE BRAIN.—At a meeting of the French Acad. des Sciences, in June last (rep. in *L'Union Médicale*), M. Salathé reported the results of experiments performed by himself, for the purpose of registering the movements of the brain as follows:

After trepanning the skull of an animal, making a hole 2 centimetres in diameter, he fitted to it a glass tube, closed above by a rubber stopper, traversed by a small glass tube which is continued in a rubber tube, that terminates finally in a diaphragm with lever attachment. Liquid is placed in this apparatus so that its level reaches about the middle of the small glass tube. By it the slightest oscillations of the liquid can be detected and registered on a revolving cylinder on which, at the same time, the trace of the respiration and the heart may be taken.

The details of these experiments performed in the laboratory of Prof. Marey, will be published at a future time; the following, however, are the principal results obtained:

1. The oscillations of the liquid in relation with the respiration, though feeble and almost *nil* in quiet breathing, become very pronounced during efforts of any kind, cries, etc.
2. The respiratory oscillations of the liquid observed simultaneously in the cranium and the cord are synchronous.
3. Artificial respiration reverses the order of the oscillations; this then rises with inspiration and falls with expiration.
4. The oscillations depend upon the cardiac systole, which may be in part or wholly masked, in the case of exaggerated respiration, giving a trace similar to that of the pulse.
5. Attitude exerts a great influence over the intra-cranial pressure, indicating considerable changes in the level of the liquid; this rises especially when we raise the hind quarters of the animal, and lowers with the reverse posture.
6. Anæsthetics may modify the phenomena in two ways, either by suddenly suppressing the respiration and its resulting oscillations, or in suppressing these last and rendering the respiration even.

THE EFFECTS OF EXCITATION OF THE PERIPHERAL END OF THE SCIATIC NERVE ON THE VESSELS OF THE CORRESPONDING FOOT.—At the session of the Soc. de Biologie, Aug. 12, (rep. in the *Gaz. des Hôpitaux*) M. Lepine presented a new communication on the effects of excitation of the peripheral end of the divided sciatic on the vascularization of the corresponding paw. As is known, when the nerve is divided, the excitation nearly always causes a vascular contraction, and if the section has been made several days, the reverse effect (dilatation) is produced. Heidenhain explains this last fact, by supposing that the vaso-constrictor fibres of the sciatic degenerate more quickly than the vaso-dilators, and never are less excitable a few days after the section. M. Lepine combats this explanation. The proof says he, that this hypothesis is unfounded, is that if we immerse the paw, the sciatic nerve of which has been divided some days before, into warm water for some time, excitation then produces a constriction of the vessels. From this it follows, that we, have here, not the difference of excitability claimed in the two kinds of fibres, but rather the condition of the terminal nervous constrictor apparatus. It is a condition of marked irritability, of which in general, some days after the section, excitation is followed by vascular dilatation; but if we put it artificially into the opposite condition (by heat, especially), its excitation causes contraction.

MECHANICAL IRRITATION OF THE DURA MATER.—The following are the conclusions of a note by M. Bochefontaine, presented by M. Vulpian to the Acad. des Sciences. Aug. 7, (rep. in *La France Médicale*):

It seems an established fact that mechanical excitation of the cranial dura mater of one side, may cause contractions of one or several muscles on the corresponding side of the face. To obtain this result, the excitation may be slight, or the animal may be anæsthetized to a certain degree. A stronger mechanical excitation causes simultaneously with the facial